dation. Subjective complaints lasted about the same length of time. Partial constriction of the pupil lasted from two to three days.

Summary and Conclusions

Pilots and others have long recognized the miosis which is frequently a consequence of applying tetraethylpyrophosphate (TEPP) dust by aircraft. Accompanying the miosis, operating pilots have regularly noted a decrease in light perception and have more rarely experienced an inability to judge distance.

Two drops of 0.05% TEPP instilled into each eye of volunteers produced slight miosis and a slight increase of near accommodation.

Two drops of 0.1% TEPP instilled into each eye of volunteers produced maximal miosis, an increase in near and far accommodation, and a decrease in light perception but no inability to judge distance.

Two drops of 0.1% TEPP in only one eye of each of seven volunteers produced unilateral miosis and other expected changes in the treated eye but also caused all the volunteers to complain of difficulty in vision; four of the volunteers complained specifically of difficulty in judging distance, and six of them made sensorimotor errors of fumbling, stumbling, or other clumsiness.

It is concluded that infrequent unilateral contamination of the eye by spillage or other accident, accounts for the occasional inability of pilots applying TEPP to judge distance adequately. The incoordination which may accompany such inability to judge distance may be a serious threat to the pilots.

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